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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/399,694	09/21/1999	MARK ANTHONY CESARE	ST9-99-037	2556

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EXAMINER

NGUYEN, TAM V

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 01/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/399,694

Applicant(s)

CESARE ET AL.

Examiner

Tam V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-46 are pending in this action. Claims 1-46 are presented for examination. This office action is in response to the argument dated 11/06/02.

Response to Arguments

2. Applicant's arguments with respect to claims 1-46 have been considered but are moot in view of the new ground(s) of rejection.

The applicant argued, "The Knudsen patent does not indicate a find criteria and a replacement value for each rule definition".

In response, the examiner respectfully disagrees because Knudsen shows the body of the loop consists of the statement to be executed for each occurrence satisfying the selection criteria, (col. 11, lines 1-27). Knudsen also shows in order to alter the primary key value of the occurrence, it is necessary to delete the old occurrence and insert the new one, (col. 13, lines 1-5).

The applicant argued, "The Knudsen patent does not directly insert replacement values in the fields in the input data column". This subject matter just added into the claims limitation; therefore, see claims rejection below.

Drawings

3. The formal drawings filed on 11/8/02, paper number 8, are objected to because of missing label in pages 2/10. Correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-7, 13-20, 26-33, and 39-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knudsen et al. (US 5596752) in view of Graefe et al. (US 6298342B1).

Re claims 1, 14, 27, and 40, a Knudsen discloses receiving at least one rule definition (col. 5, lines 61-col. 6, lines 8), wherein each rule definition indicates a find criteria (col. 10, lines 55-col. 11, lines 29 and col. 62, lines 4-28), a replacement value, (col. 12, lines 65-col. 13, lines 15), and an input data column in the input table, (col. 12, lines 37-63); searching, for each rule definition, the input data column for any fields that match the find criteria, (col. 5, lines 61-col. 6, lines 8, col. 10, lines 55-col. 13, lines 15, and col. 12, lines 37-63); inserting, for each definition, the replacement value in the fields in the input data column that match the find criteria, wherein subsequent application of additional rule definitions applied to the same input data column operate on replacement values inserted in the input data column in previously applied rule

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definition, (col. 5, lines 61-col. 6, lines 8, col. 10, lines 55-col. 11, lines 29, and col. 12, lines 37-col. 13, lines 15).

Knudsen does not clearly teach, "If the rule definition does not specify an output table, directly".

However, Graefe teaches relational algebra is more operationally oriented (yet equivalent to) relational calculus. Operations or functions in relational algebra consume one or more input table and produce an output table according to a rule, (col. 7, lines 11-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Knudsen with the teaching of Graefe because the execution engine has a strictly internal operation for splitting each item of a table updated having the form (row_identifier, old_values, new_values) within a stream of update item into a "delete item" and an "insert item" which interchanges certain row and column values, and a similar operation for collapsing a "delete item" and an "insert item" into an "update item".

Re claims 2, 15, and 28, wherein each rule definition is associated with one rule table including the find criteria and replacement value, wherein a rule table column parameter for each rule definition indicates the columns in the rule table including the find criteria and replacement value for the rule definition, (col. 5, lines 61-col. 6, lines 8, col. 10, lines 55-col. 11, lines 29, col. 76, lines 15-35, and col. 12, lines 37-col. 13, lines 15).

Re claims 3, 16, and 29, wherein there is a separate rule table including the find criteria and replacement value associated with at least one rule definition, wherein, for each rule definition, a rule table column parameter indicates the columns in the rule table for the rule definition including the find criteria and replacement value for that rule definition, (col. 5, lines 61-col. 6, lines 8, col. 10, lines 55-col. 11, lines 29, and col. 12, lines 37-col. 13, lines 15).

Re claims 4, 17, and 30, wherein the input data column for a first and second applied rule definitions is the same input data column, wherein the replacement value for the first rule definition is inserted into at least one field in the input data column, and wherein the find criteria of the second rule definition is applied to the replacement value inserted in the input data column, (col. 5, lines 61-col. 6, lines 8, col. 10, lines 55-col. 11, lines 29, and col. 12, lines 37-col. 13, lines 15).

Re claims 5, 18, 31, and 44, wherein at least one rule definition includes multiple find criteria and a corresponding replacement value for each find criteria, wherein the step of searching the input data column comprises applying each of the multiple find criteria to one field until one of: (i) a match occurs, (col. 70, lines 24-55) and (ii) none of the multiple find criteria are found to match the field content, and wherein inserting the replacement value comprises inserting the replacement value corresponding to one find

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criteria that matched the field content, (col. 5, lines 61-col. 6, lines 8, col. 10, lines 55-col. 11, lines 29, and col. 12, lines 37-col. 13, lines 15).

Re claims 6, 19, 32, and 45, wherein a sort column includes values to use to sort the multiple find criteria and corresponding replacement value, wherein the step of searching comprises applying the multiple find criteria to each field in the order specified in the sort column, (col. 5, lines 61-col. 6, lines 8, col. 10, lines 55-col. 11, lines 29, and col. 12, lines 37-col. 13, lines 15).

Re claims 7, 20, 33, and 46, wherein the rule definition comprises a type of rule that is a member of the set of rules consisting of: find and replace, discretization, and numeric clip, wherein at least two rule definitions are comprised of different rule types, (col. 5, lines 61-col. 6, lines 49).

Re claims 13, 26, and 39, wherein the rule definitions include a row clean flag, and wherein at least one rule definition has the row clean flag set, further comprising removing any row including a field matching the search criteria from the input table when the row clean flag is set, (col. 14, lines 59-col. 15, lines 46).

Re claim 41, wherein at least one rule definition further includes: indication of one rule including the find criteria and replacement value for the at least two rule definitions, such that the one rule table includes the find criteria and replacement value for the at

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least two rule definitions, (col. 5, lines 61-col. 6, lines 8, col. 12, lines 65-col. 13, lines 15); and a rule table column parameter for the at least two rule definitions indicating the columns in the rule table including the find criteria and replacement value for the rule definitions, (col. 5, lines 61-col. 6, lines 8, col. 12, lines 37-col. 13, lines 63, and col. 62, lines 4-28).

Re claim 42, wherein at least one rule definition further includes: indication of a separate rule table for each rule definition including the find criteria and replacement value for the at least two rule definitions, (col. 5, lines 61-col. 6, lines 8, col. 12, lines 37-col. 13, lines 63, and col. 62, lines 4-28); and a rule table column parameter indicating the columns in the rule table for the rule definition including the find criteria and replacement value for that rule definition, (col. 5, lines 61-col. 6, lines 8, col. 12, lines 37-col. 13, lines 63, and col. 62, lines 4-28).

Re claim 43, wherein the input data column for a first and second applied rule definitions is the same input data column, (col. 5, lines 61-col. 6, lines 8, col. 12, lines 37-col. 13, lines 63, and col. 62, lines 4-28).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 8-12, 21-25, and 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knudsen et al. (US 5596752) in view of Graefe et al. (US 6298342B2) and further in view of DeLong et al. (US 6185552).

Re claims 8, 21, and 34, Knudsen and Graefe do not clearly teach an upper bound and lower bound, wherein searching comprises searching for any fields that have values within the upper and lower bounds.

DeLong teaches sequential processing of a unified data structure is possible, where a search begins at an upper or lower bound of the table and progresses until the desired key value is located or until the opposite bound is reached. The associated data values(s) is then retrieved if a match occurs. This approach is commonly referred to as a linear search, (col. 1, lines 33-48). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Knudsen and Graefe by including sequential processing of a unified data structure is possible, where a search begins at an upper or lower bound of the table and progresses until the desired key value is located or until the opposite bound is reached. The associated data values(s) is then retrieved if a match occurs, as taught by DeLong, so that the users can get the result quickly and precisely.

Re claims 9, 12, 22, 25, 35, and 38, DeLong further discloses wherein the at least one rule definition including find criteria having upper and lower bounds includes multiple find criteria and a corresponding replacement value for each find criteria,

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wherein the step of searching the input data column, (col. 1, lines 33-38) comprises applying each of the multiple find criteria to one field until one of:

Knudsen further discloses (i) a match occurs, (col. 70, lines 24-55) and (ii) none of the multiple find criteria are found to match the field content, and wherein inserting the replacement value comprises inserting the replacement value corresponding to one find criteria that matched the field content, (col. 70, lines 24-55).

Re claims 10, 23, and 36, DeLong further discloses wherein searching comprises searching for any fields that have values outside of one of the upper and lower bounds, (col. 1, lines 33-38).

Re claims 11, 24, and 37, Knudsen and Graefe do not clearly teach an upper bound and lower bound.

DeLong teaches sequential processing of a unified data structure is possible, where a search begins at an upper or lower bound of the table and progresses until the desired key value is located or until the opposite bound is reached. The associated data values(s) is then retrieved if a match occurs. This approach is commonly referred to as a linear search, (col. 1, lines 33-48). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Knudsen and Graefe by including sequential processing of a unified data structure is possible, where a search begins at an upper or lower bound of the table and progresses until the desired key value is located or until the opposite bound is reached. The associated

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data values(s) is then retrieved if a match occurs, as taught by DeLong, so that the users can get the result quickly and precisely.

Knudsen further discloses the replacement value is an upper replacement value and further comprising a lower replacement value, wherein searching comprises searching for any fields that have values within the upper and lower bounds and wherein inserting comprises inserting the upper replacement value if the field has a value greater than the upper bound and inserting the lower replacement value if the field has a value less than the lower bound, (col. 5, lines 61-col. 6, lines 8, col. 63, lines 63-col. 64, lines 39, col. 76, lines 15-35, and col. 12, lines 37-col. 13, lines 15).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Contact Information

9. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam V Nguyen whose telephone number is (703) 305-3735. The examiner can normally be reached on 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Yen Vu can be reached on (703) 305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for formal communications and (703) 746-7240 for informal communications.

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, Virginia 22202. Fourth Floor (Receptionist).

11. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

TV:tv

01/08/03


**JEAN M. CORRIELUS
PRIMARY EXAMINER**